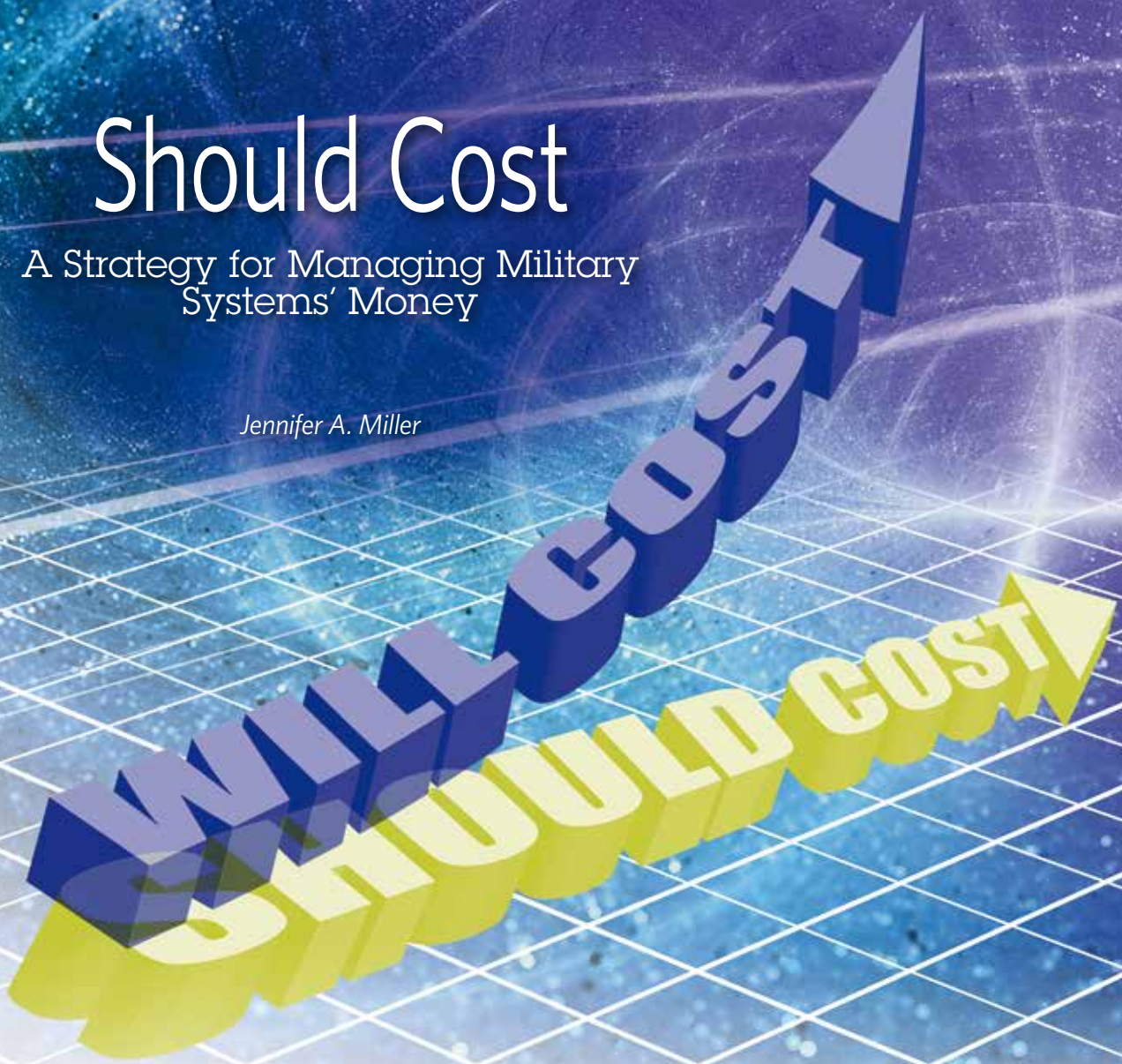# Should Cost

A Strategy for Managing Military Systems' Money

Jennifer A. Miller

Constituents gawk at the costs that intermediaries sometimes report that the Department of Defense (DoD) spent on goods and services. "A toilet, hammer, toner, etc., shouldn't cost that much," we exclaim. Where and when did we begin to focus on should cost? Great question!

My first introduction to should cost occurred about 5 years ago when holding a nonacquisition billet. This peripheral perspective caused me to reach out to the Defense Acquisition University (DAU) community to learn more. As I recall, one remark about will cost and should cost was that they resembled a kitten with a yarn ball—things would get complex in due course. I chuckled, but I also kept tabs as the next few years passed, and I ended up directly handling should cost for the Air Force Life Cycle Management Center's (AFLCMC) Armament Directorate at Eglin Air Force Base (AFB) in Florida. That is where I got the hot wash of should cost's evolution and quick handoff from a departing Service member who was the primary point of contact since introduction to the weapons portfolio in 2013.

Should cost began as part of an initiative in 2011, followed by appearance in Better Buying Power (BBP) 1.0 and 2.0, and morphed into a "core" initiative of BBP 3.0. Acquisition Category (ACAT) I through ACAT III programs were

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Boeing and the U.S. Air Force achieved the first flight of an unmanned QF-16 aerial target in September 2015.
Photo: U.S. Air Force

to embark on department-wide efforts to drive productivity improvements with should cost analysis. Five programs were identified as pilots for the distribution of funds based on should cost execution baselines for lessons learned that should be shared among DoD constituents. Services received initiative guidance, terms, procedures, reporting, and codification in policy from the Under Secretary of Defense for Acquisition, Technology, and Logistics to begin the will cost and should cost experience.

Significance rested with directed control of costs throughout product life cycles, with should cost-based management. Both the Army and the Air Force received scholarly additions to should cost efforts from the University of Tennessee National Defense Business Institute and a should cost management implementation case study published by Naval Postgraduate School (NPS). The practice of should cost in acquisition programs has since soared, with much follow-on discussion and implementation effort.
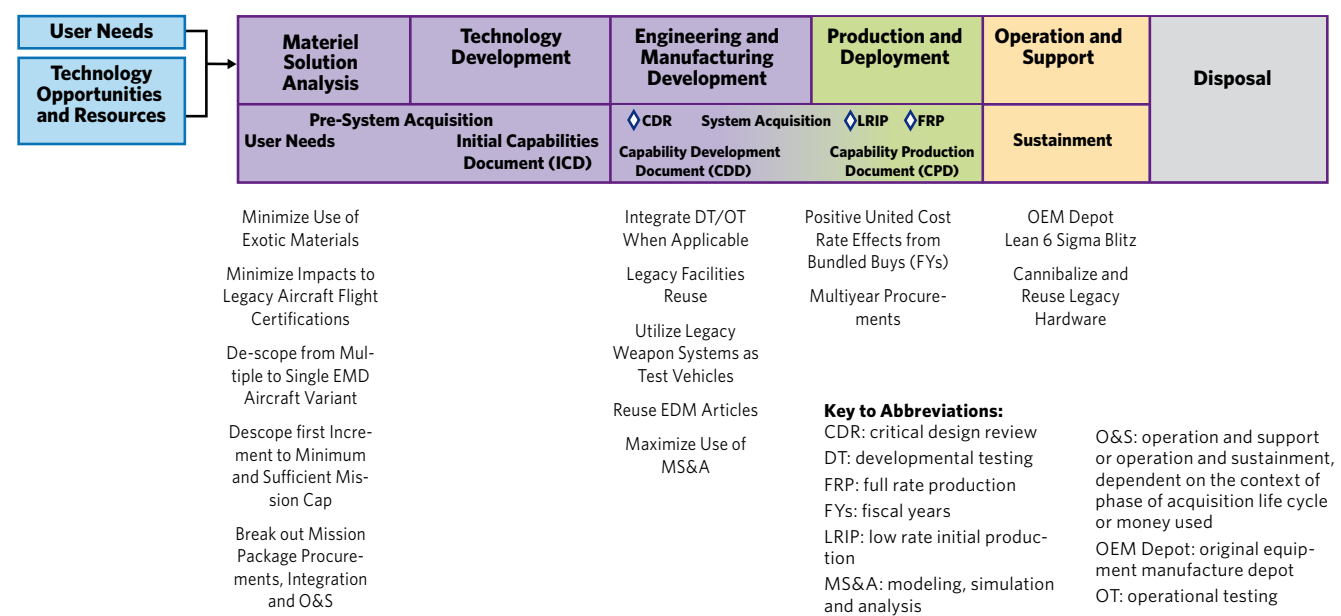
Among the abundance and iterations of policy, guidance, and business rules, the Air Force Life Cycle Management Center's Program Executive Office/Weapons Programs (WP) is an example of rising to the should cost occasion. As of 2015, one of many successes rests with Maj. Gen. Scott Jansson, former Air Force program executive officer (PEO) for Weapons, and director of the Armament Directorate, AFLCMC, at Eglin AFB. In April 2015, Brig. Gen. Shaun Morris assumed the position of Air Force PEO for weapons and director of the Armament Directorate with progressive changes of his own to advance the weapon portfolio's should cost achievements. The weapons portfolio currently boasts more than $700 million in should cost savings, a combination of should cost budget savings and should cost avoidance of expenditures. The should cost budget savings and should cost avoidance stem from 48 success-

ful should cost initiatives logged in the Web Comprehensive Cost and Requirement System (WebCCaRS) and reported in Executive CCaRS (EC). Savings stem from strides made in establishing the process of should cost, building on successful should cost initiatives (SCIs), and continuous improvement. As experienced, should cost applies to goods and services, with benefits to government, industry and our foreign partners. While not all SCIs succeed, they all offer learning lessons for the program of record and other programs within the portfolio. One widely shared, successful SCI belongs to the QF-16 program. The QF-16 is also known as a Full Scale Aerial Target (drone) used for combat training and test of U.S warfighters.

In 2015, the weapons portfolio was asked to select an SCI as an exemplar to be featured in a should cost "Train the Trainer" telecom. Of the numerous SCIs available, the chief financial officer for the portfolio chose the QF-16 Engine Management (see photo). The program achieved slightly more than $46 million in realized should cost savings in the Fiscal Year (FY) 2013–FY 2020 period as of February 2015. The primary source of should cost savings was the transfer of Service Life Extension Program candidate engines that had sufficient serviceable cycles remaining in exchange for low-cycle QF-16 allocated engines.

Additionally, the strategic management of the program included establishing formal business agreements with multiple external organic organizations to regenerate Government Furnished Property (GFP) and provide avionics intermediate support. This SCI captured the fact that should cost is not an isolated effort or limited to a program manager's responsibility, though a program manager's rating does incorporate should cost efforts at this time. Instead, should cost spans business partners, internal and external business partners, and years beyond the Fiscal Year Defense Plan. It is no wonder

Figure 1. Should Cost Initiative Opportunities

User Needs / Technology Opportunities and Resources	Materiel Solution Analysis	Technology Development	Engineering and Manufacturing Development	Production and Deployment	Operation and Support	Disposal
	Pre-System Acquisition		◇CDR System Acquisition ◇LRIP ◇FRP		Sustainment	
	User Needs Initial Capabilities Document (ICD)		Capability Development Document (CDD)	Capability Production Document (CPD)		

Minimize Use of Exotic Materials	Integrate DT/OT When Applicable	Positive United Cost Rate Effects from Bundled Buys (FYs)	OEM Depot Lean 6 Sigma Blitz
Minimize Impacts to Legacy Aircraft Flight Certifications	Legacy Facilities Reuse	Multiyear Procurements	Cannibalize and Reuse Legacy Hardware
De-scope from Multiple to Single EMD Aircraft Variant	Utilize Legacy Weapon Systems as Test Vehicles		
Descope first Increment to Minimum and Sufficient Mission Cap	Reuse EDM Articles		
Break out Mission Package Procurements, Integration and O&S	Maximize Use of MS&A		

Key to Abbreviations:
CDR: critical design review
DT: developmental testing
FRP: full rate production
FYs: fiscal years
LRIP: low rate initial production
MS&A: modeling, simulation and analysis

O&S: operation and support or operation and sustainment, dependent on the context of phase of acquisition life cycle or money used
OEM Depot: original equipment manufacture depot
OT: operational testing

that should cost appears to be gaining momentum rather than fading like a trend.

To satisfy guidance and maintain should cost momentum in the Air Force, use of modifications in WebCCaRS and EC for documentation and tracking emerged. At Eglin AFB, routine division-wide Should Cost Presentations began with a Jansson briefing on will cost, should cost, and open SCIs. The current likelihood of SCI results and proposal for closure of SCIs also would be shared. Content for the presentations mostly came from the systems as did our ad hoc reports to the Assistant Secretary of the Air Force for Acquisitions (SAF/AQ). The division-wide should cost presentations were frequent at first, similar to the abundant brainstorming sessions held to create SCIs and log the SCIs into WebCCaRS. It was something of a litmus test for true innovation that it maintain the spirit and

intent of should cost rather than pick low-hanging fruit of easier savings opportunities. Instilling this mentality early throughout the Armament Directorate has benefited and enabled Morris to delegate approval of SCIs to senior material leaders of each division. Should cost presentations for the Armament Directorate have decreased in frequency, but standards remain high. As time has passed, assistance provided through should cost has become robust.

AFLCMC should cost resources have expanded to include a SharePoint with events, discussion boards, announcements, tools, templates, and archives of guidance. These should include briefs, articles, news, exemplars, policy, processes, training and contacts. As in all great implementations, continuous monitoring and improvements took place and continue today during our telecoms and network discussions of what has been done and what will come down as future system and policy changes. Iterative results included recognition where possible of strengths and weaknesses with incorporation of suggestions where possible. This approach has resembled the Army's Cost Management Process of cost planning, cost accounting, cost analysis, and cost controlling (see Figure 1).

Figure 2. Cost Management Process
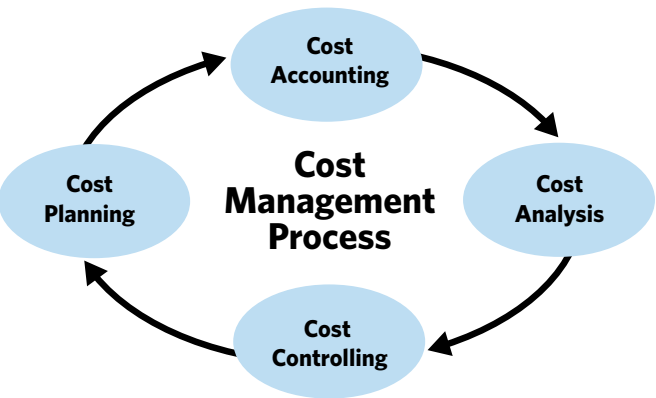
To date, Morris' (formerly Jansson's) portfolio of Weapon Systems programs continue to generate SCIs of various types to achieve more should cost successes. What remains to be determined is the next program selected as an exemplar to present for their innovative, should cost approaches. After all, a program may find should cost initiatives in any stage of the acquisition life cycle—such as in materiel solution analysis; technology development; engineering and manufacturing development; production and deployment; operations and support; and disposal (see Figure 2). Furthermore, SAF/AQ now

requires all programs of record to have at least one active SCI at all times, otherwise a Should Cost Waiver must be approved and maintained in the systems of record. Sharing from experience, our weapons portfolio has 15 or so programs that are ripe for presenting another exemplar, as we have a successful SCI to tout from four of the six acquisition life-cycle phases. I have only seen two waivers submitted for approval. Our SCIs span the areas of value engineering change proposals, data-driven contract negotiations, recycling warheads, test efficiencies, business case analyses, and more initiatives that may be leveraged successfully in other portfolios.

Finally, my experience with should cost in the Armament Directorate has been interesting, to say the least. I have kept constituents' remarks in mind as I observed the effort that goes into thinking of an SCI and then performing the calculations to support should cost against will cost and find and allocate savings. Our cost analysts have been absolutely instrumental in determining and executing the system data entries for their programs and our portfolio's should cost credit.

While there was initial frustration, and continued growing pains, I think we have all taken a beneficial, closer look at the line between what things will cost and what they should cost. The savings speak for themselves and have benefited the portfolio via reinvestment in the same program that realizes the savings or shares weapons resources with other programs. On a few SCIs, we even returned funding to the "Big Air Force" budget rather than have funding cut from our programs or portfolio.

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